

WHAT IS CLAIMED IS:

1. A fixing apparatus comprising:

a heating member which supplies heat to a sheet;

5 a pressurizing member which contacts the heating member and which has a predetermined pressure in a contact position;

a heating device including a plurality of heating members which heat the heating member;

10 a non-contact temperature detection mechanism including a plurality of non-contact temperature detection sections disposed in non-contact with the surfaces of the heating members to obtain first temperature information for detection of a temperature difference of an axial direction of the heating members, and second temperature information for
15 detection of a temperature difference of a rotation direction of the heating members; and

a control mechanism which controls a power value supplied to the heating member based on at least one of
20 the first and second temperature information.

2. The fixing apparatus according to claim 1, wherein the heating device includes two or more induction heating coils disposed outside the heating member, and the heating member is heated by induction
25 heating.

3. The fixing apparatus according to claim 2, wherein the plurality of non-contact temperature

detection sections are arranged outside the heating member, and detect a temperature of a middle portion of the induction heating coil in the axial direction of the heating member and a temperature of a joint portion
5 between the induction heating coils as the first temperature information.

4. The fixing apparatus according to claim 2, wherein the plurality of non-contact temperature detection sections detect a temperature on a downstream
10 side of the rotation direction of the heating member in a detection place where the first temperature information is detected and on an upstream side of the rotation direction from a nip portion formed between the heating member and the pressurizing member as the
15 second temperature information.

5. The fixing apparatus according to claim 1, wherein the non-contact temperature detection mechanism is capable of detecting temperatures of at least two or more different detection positions.

20 6. The fixing apparatus according to claim 1, wherein the non-contact temperature detection mechanism includes a temperature sensor of a thermopile type capable of detecting the temperature using an infrared ray.

25 7. A fixing apparatus comprising:
a heating member which supplies heat to a sheet;
a pressurizing member which contacts the heating

member and which has a predetermined pressure in a contact position;

a heating device including a plurality of heating members which heat the heating member, and a control
5 section which independently drives the heating members;

a non-contact temperature detection mechanism including a plurality of non-contact temperature detection elements disposed in non-contact with the surfaces of the heating members to detect temperatures
10 of at least detection places whose number is not less than that of the plurality of heating members; and

a control mechanism which controls a power value supplied to the heating member based on temperature information corresponding to the plurality of detection
15 places from the non-contact temperature detection mechanism.

8. The fixing apparatus according to claim 7, wherein the heating device includes two or more induction heating coils disposed outside the heating
20 member, and the heating member is heated by induction heating.

9. The fixing apparatus according to claim 7, wherein assuming that the number of induction heating coils disposed in the heating device is CX and the
25 number of non-contact temperature detection elements is SY, $CX \leq SY \leq 2CX-1$ is established the non-contact temperature detection element.

10. The fixing apparatus according to claim 8,
wherein the plurality of non-contact temperature
detection sections are arranged outside the heating
member, and detect a temperature of a middle portion of
5 the induction heating coil in the axial direction of
the heating member and a temperature of a joint portion
between the induction heating coils as first
temperature information for detection of a temperature
difference in the axial direction of the heating
10 member.

11. The fixing apparatus according to claim 8,
wherein the plurality of non-contact temperature
detection sections detect a temperature on a downstream
side of the rotation direction of the heating member in
15 a detection place where the first temperature
information is detected and on an upstream side of the
rotation direction from a nip portion formed between
the heating member and the pressurizing member as
second temperature information for detection of a
20 temperature difference of the rotation direction of the
heating member.

12. The fixing apparatus according to claim 7,
wherein the non-contact temperature detection mechanism
is capable of detecting temperatures of at least two or
25 more different detection positions.

13. The fixing apparatus according to claim 7,
wherein the non-contact temperature detection mechanism

includes a temperature sensor of a thermopile type capable of detecting the temperature using an infrared ray.

14. A heatfusing control method comprising:

5 heating an outer peripheral surface of a heating member using a plurality of induction heating coils arranged outside the heating member;

detecting first temperature information for detection of a temperature difference of an axial
10 direction of the heating member and second temperature information for detection of a temperature difference of a rotation direction of the heating member using at least two non-contact temperature detection elements disposed for each induction heating coil or between the
15 coils; and

executing at least one of an axial direction temperature control to minimize the temperature difference of the axial direction of the heating member and a rotation direction temperature control to
20 minimize the temperature difference of the rotation direction of the heating member based on the first and second temperature information.

15. A heatfusing control method according to claim 14, wherein the first temperature information
25 includes at least two of a temperature of a middle portion of the induction heating coil in the axial direction of the heating member and a temperature of

a joint portion between the induction heating coils.

16. The heatfusing control method according to claim 15, wherein the second temperature information is a temperature on a downstream side of the rotation
5 direction of the heating member in a detection place where the first temperature information is detected and information from two or more detection places which differ in phase in the rotation direction of the heating member.

10 17. The heatfusing control method according to claim 15, wherein the axial direction temperature control comprises: comparing the first temperature information detected for each induction heating coil with information for each coil; and supplying a
15 predetermined power value to the induction heating coil so as to minimize the difference.

18. The heatfusing control method according to claim 16, wherein the rotation direction temperature control comprises: comparing information from two or
20 more detection places which are second temperature information with each other; and supplying a predetermined power value to the induction heating coil so as to minimize the difference.